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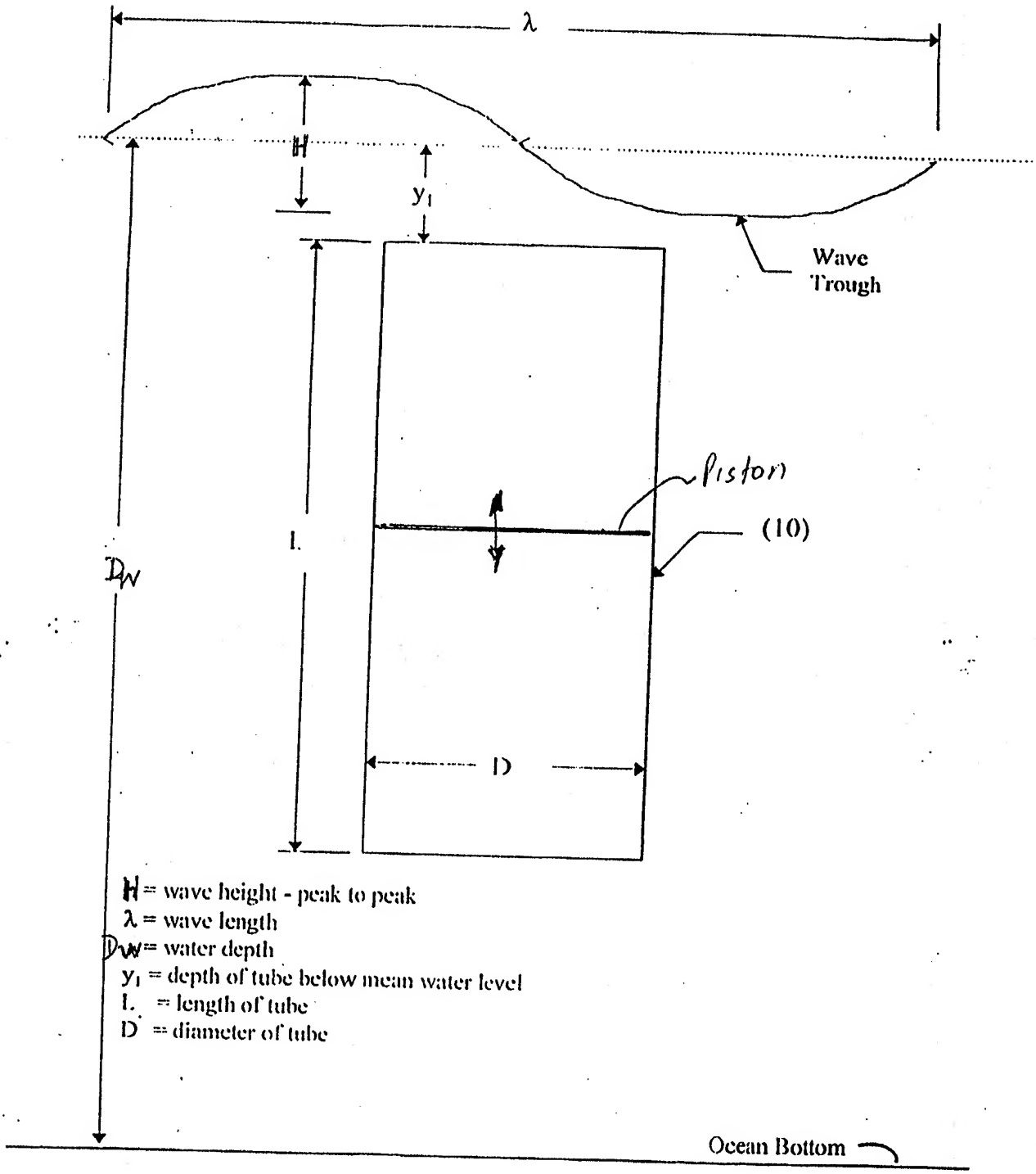


H = wave height - peak to peak
λ = wave length
D_W = water depth
y_1 = depth of tube below mean water level
L = length of tube
D = diameter of tube

Figure 1

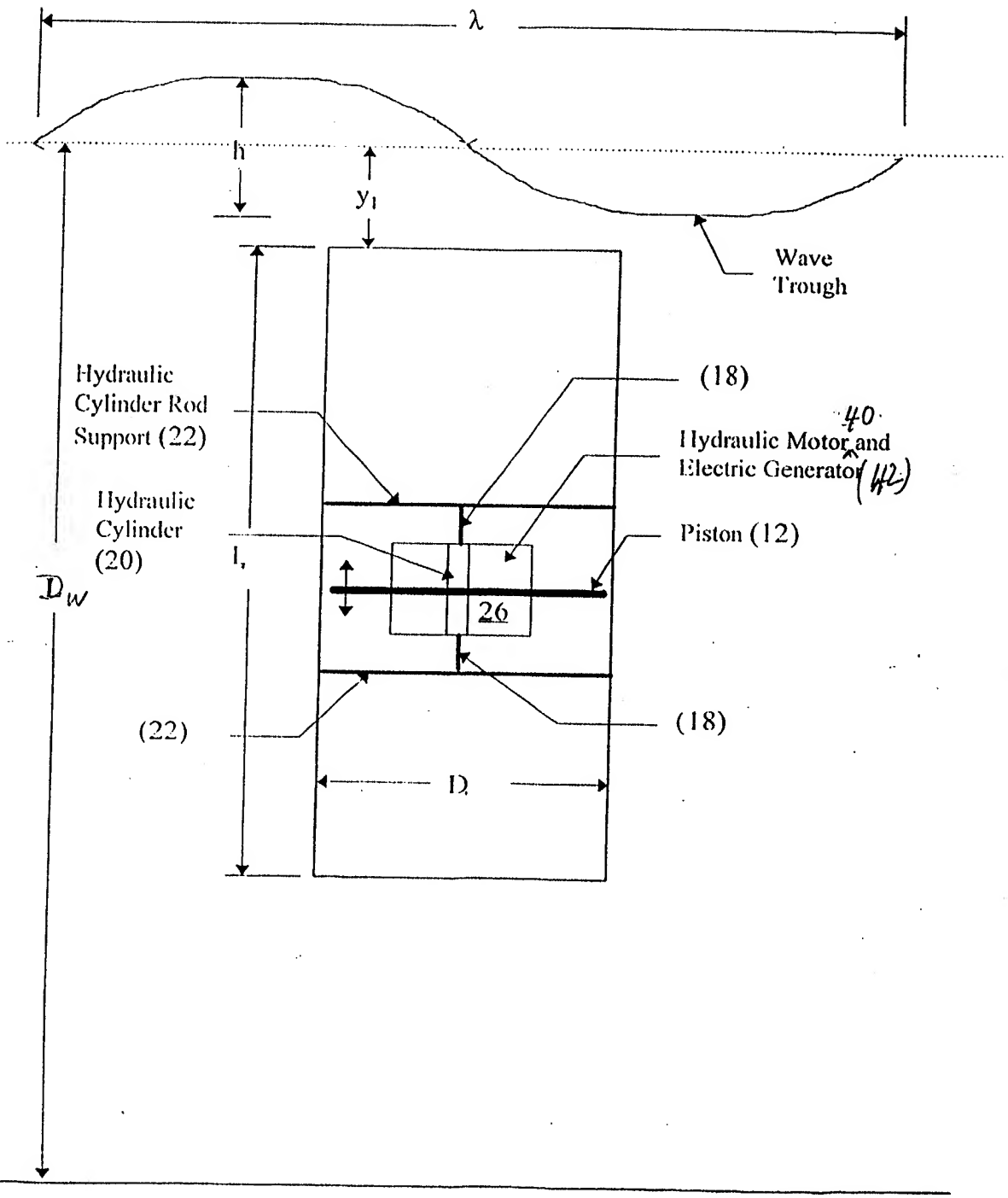

λ
h
y_1
Wave
Trough
Hydraulic
Cylinder Rod
Support (22)
Hydraulic
Cylinder
(20)
D_w
l_1
(18)
40
Hydraulic Motor and
Electric Generator (42)
Piston (12)
26
(22)
(18)
D
Ocean Bottom

Figure 2A

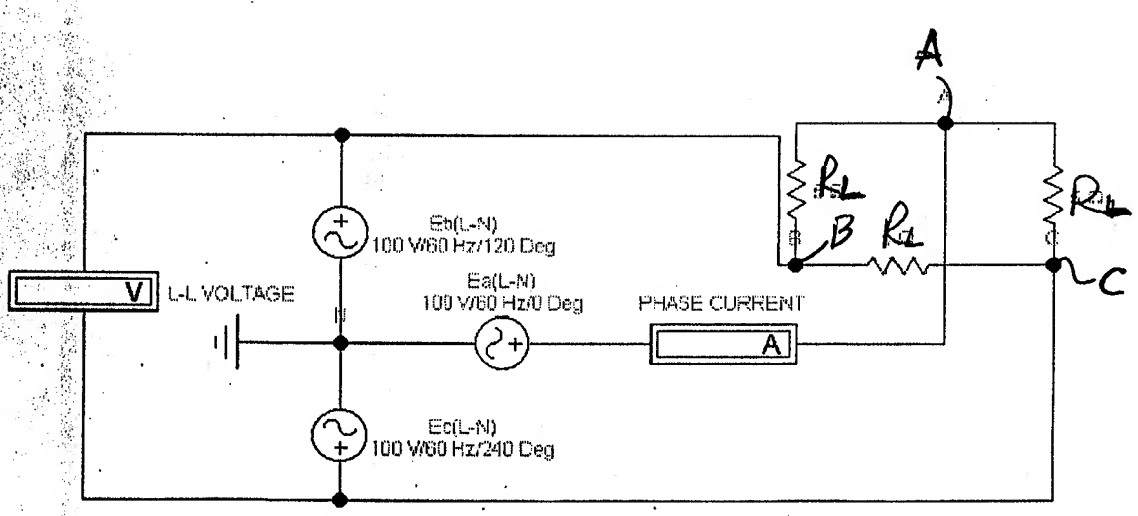
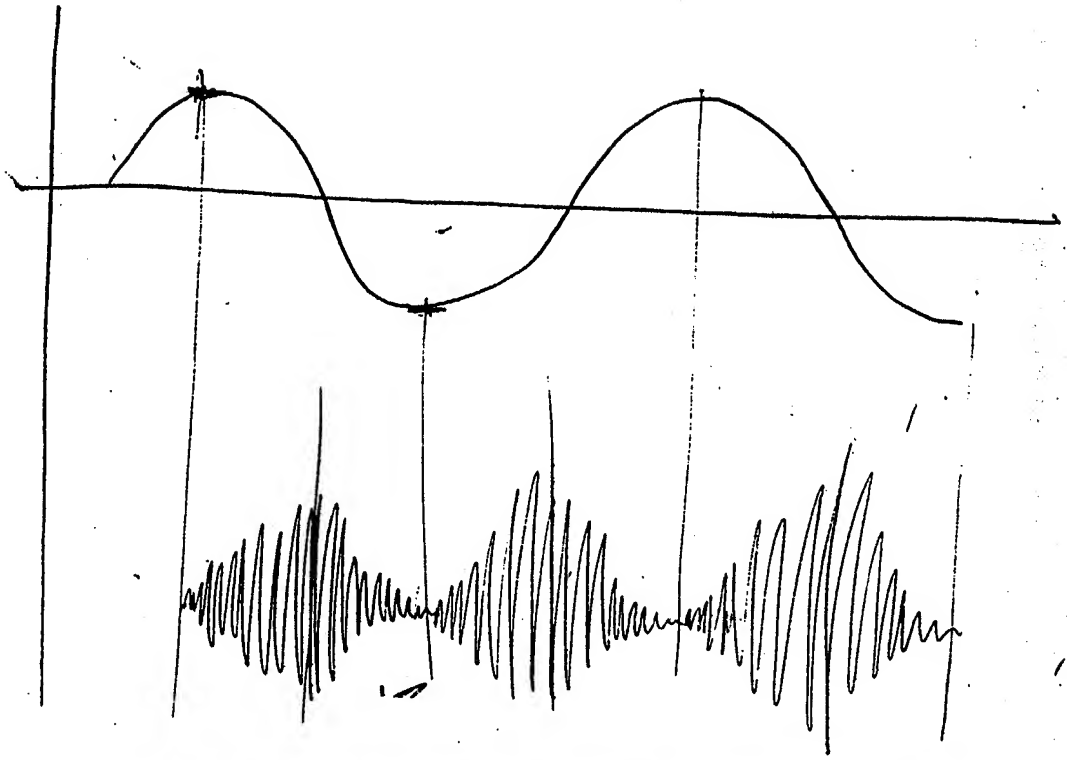


Figure 3 Three ϕ Generator, Δ Connected Load



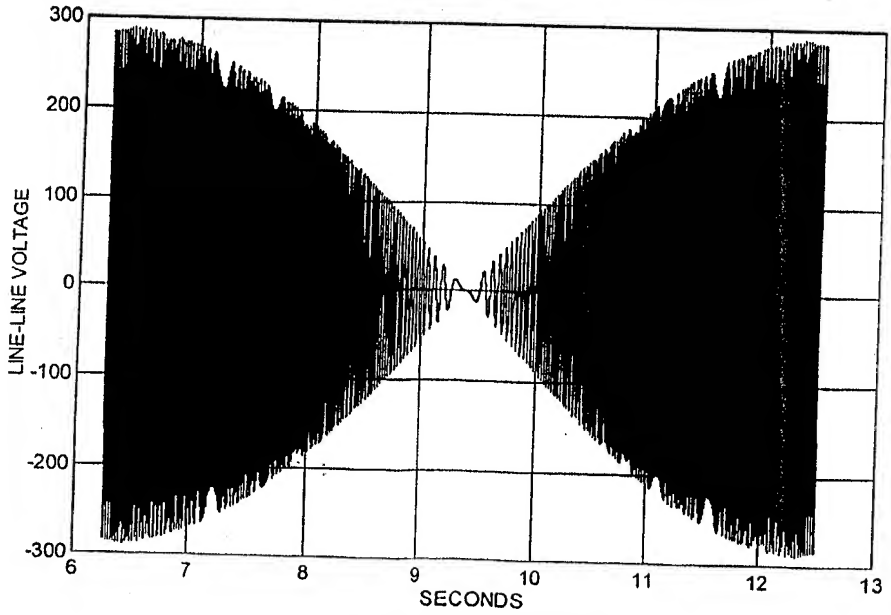


Figure 4 Modulated Generator Voltage

20STTO' 89Z4001

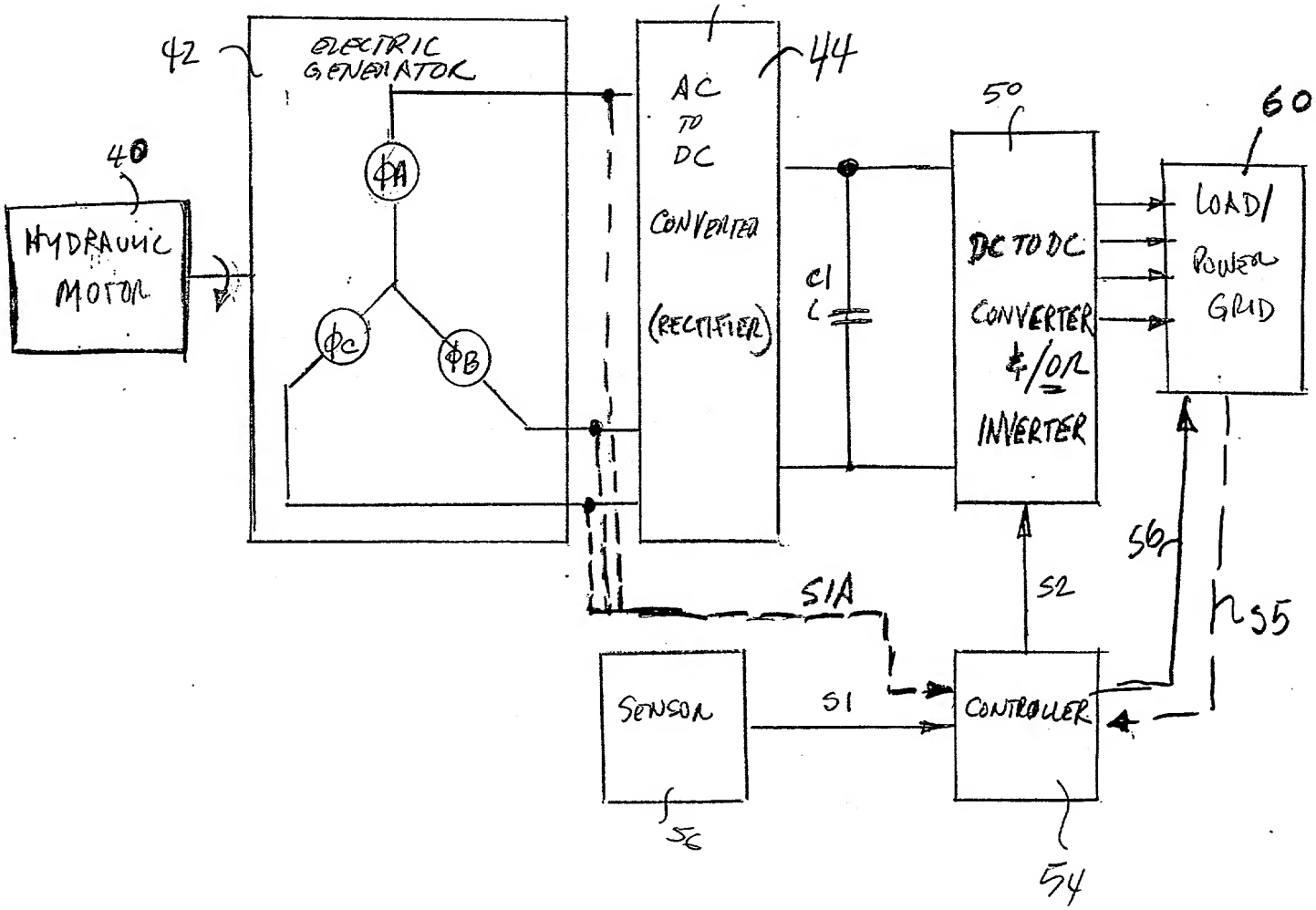


FIG 5

20STTO" 8927400T

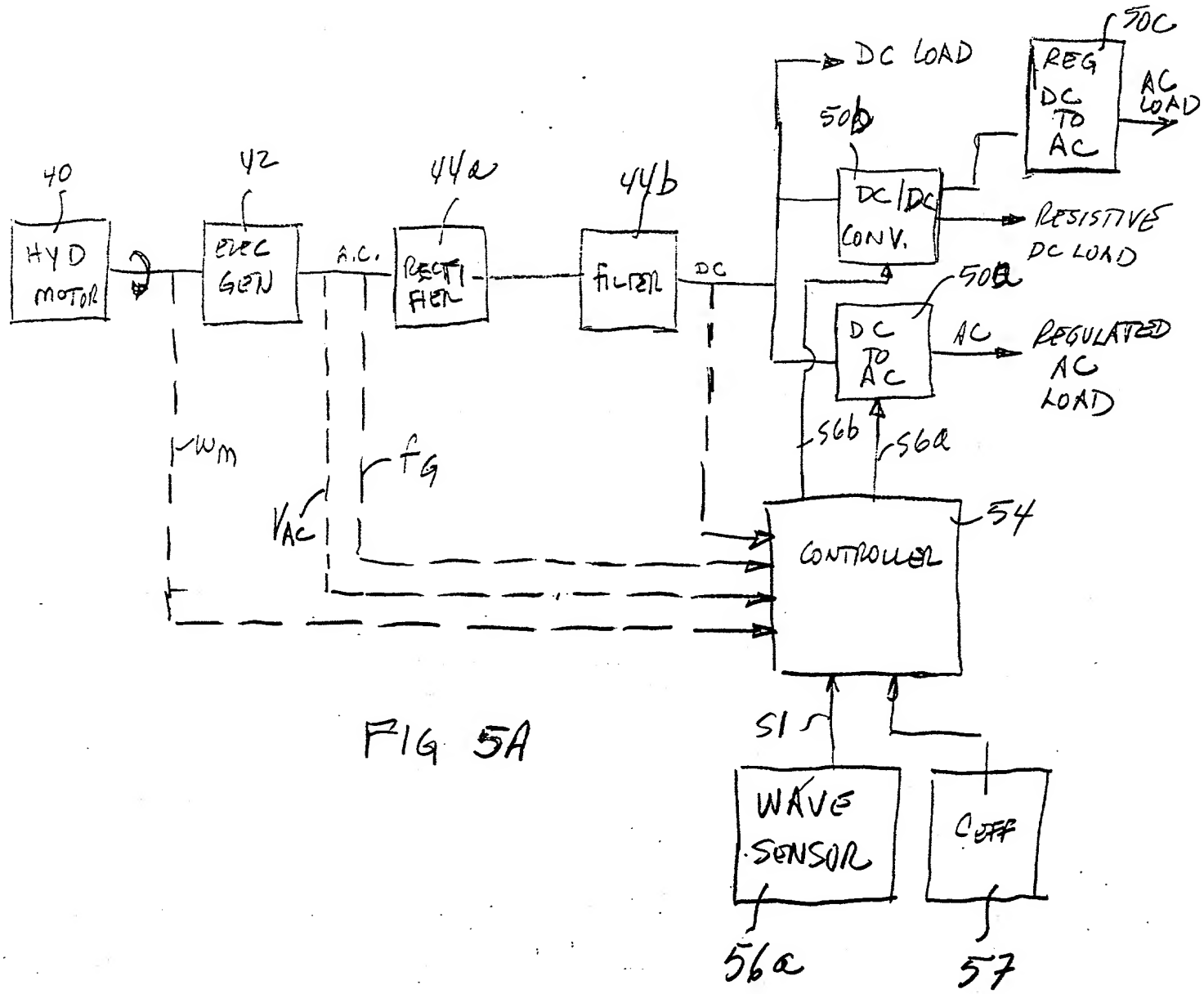


FIG 5A

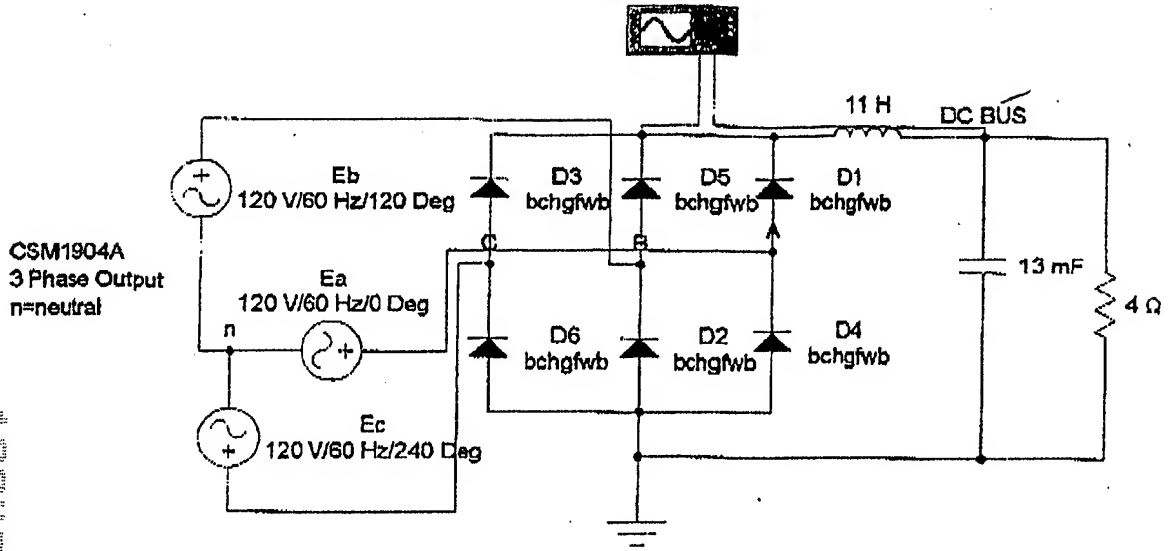


FIG. 6

DOCKET, COM

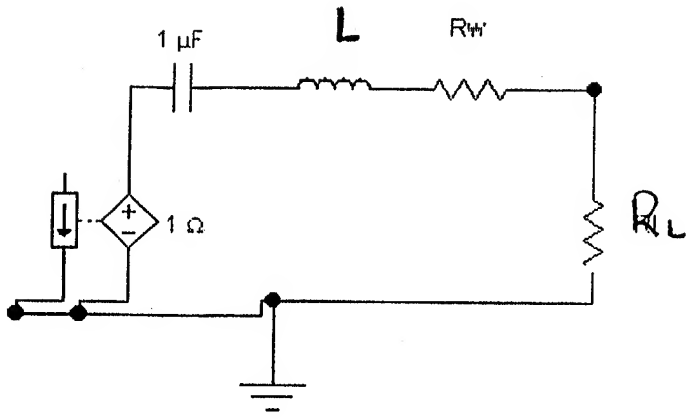


Figure 7. Generator Load Configuration

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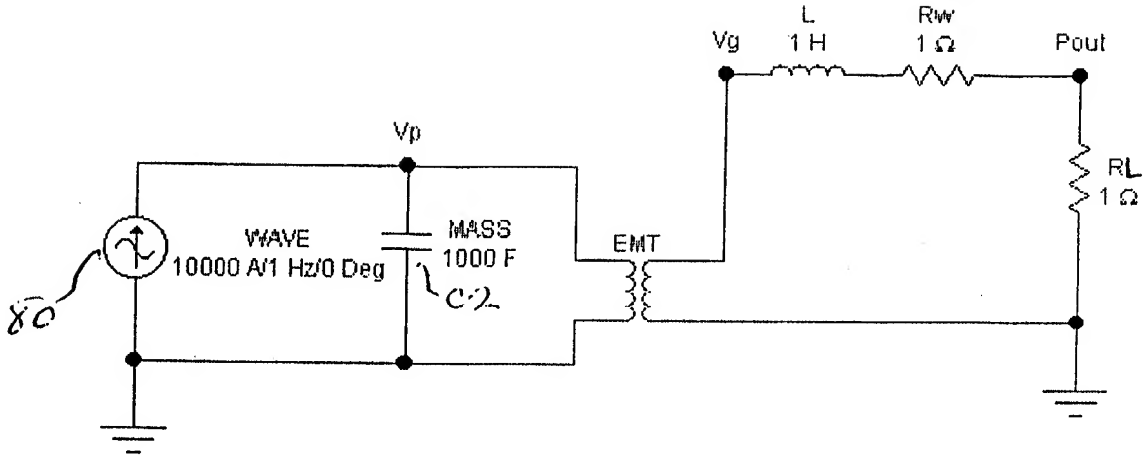

FIG 8 – ELECTRO-MECHANICAL EQUIVALENT CIRCUIT

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2057TO"8927h00T

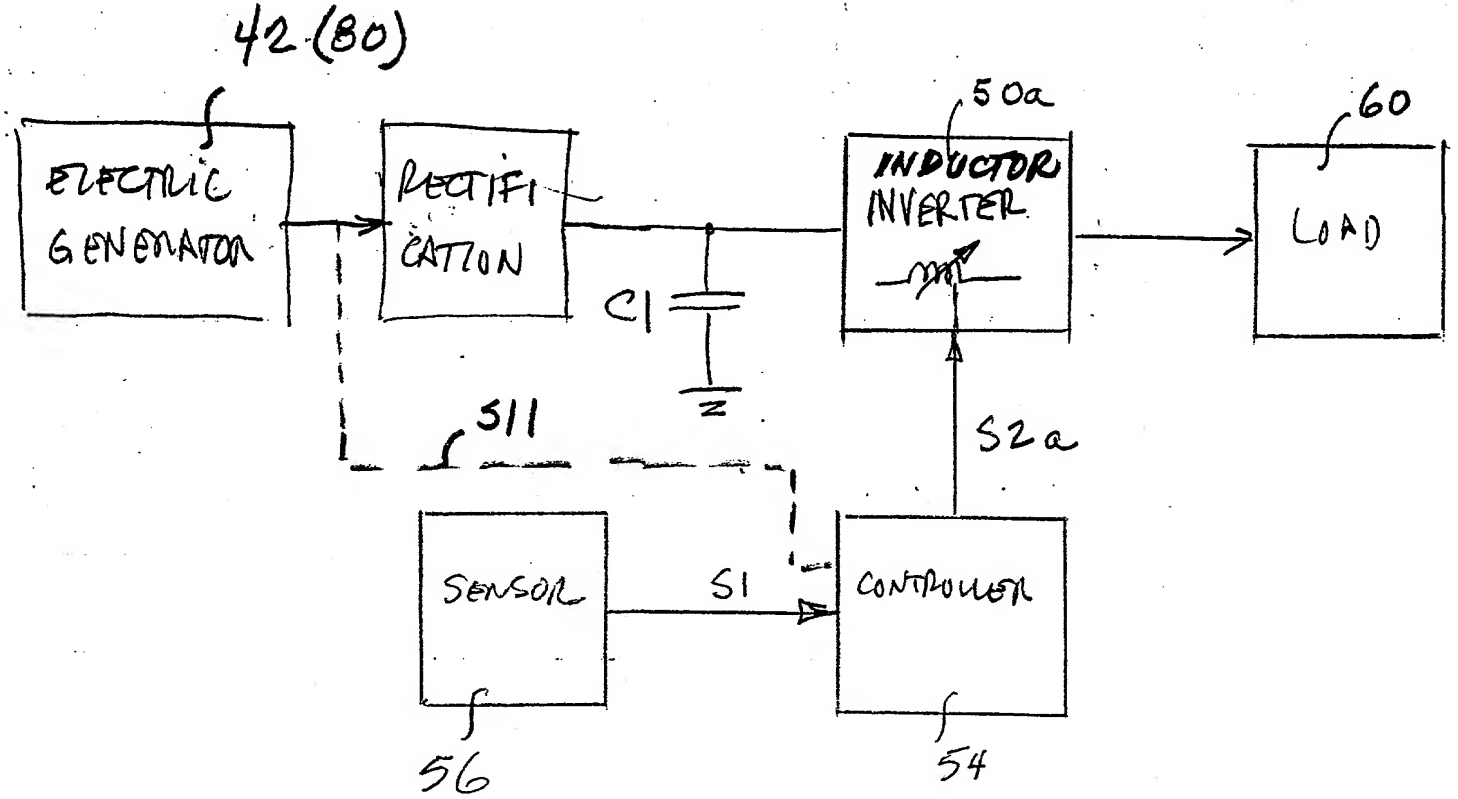


FIG 9

20STTO"8974h00T

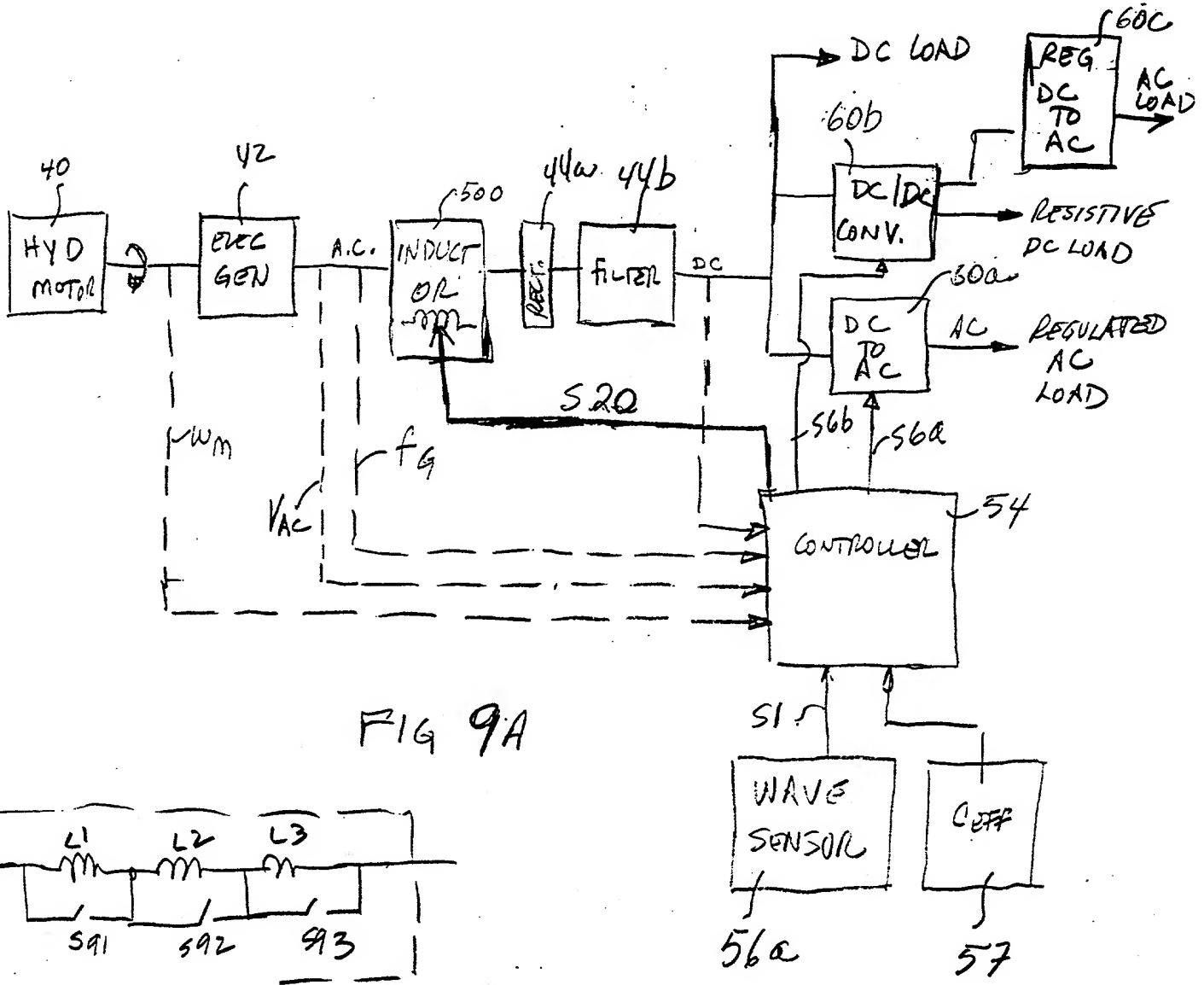


FIG 9A

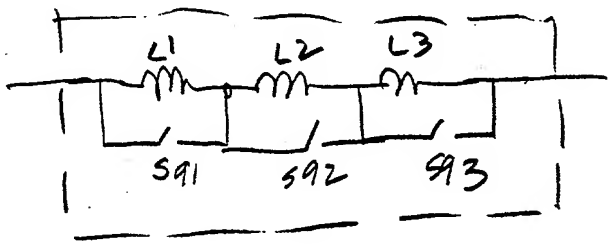


FIG 9B

20STTO"8924001

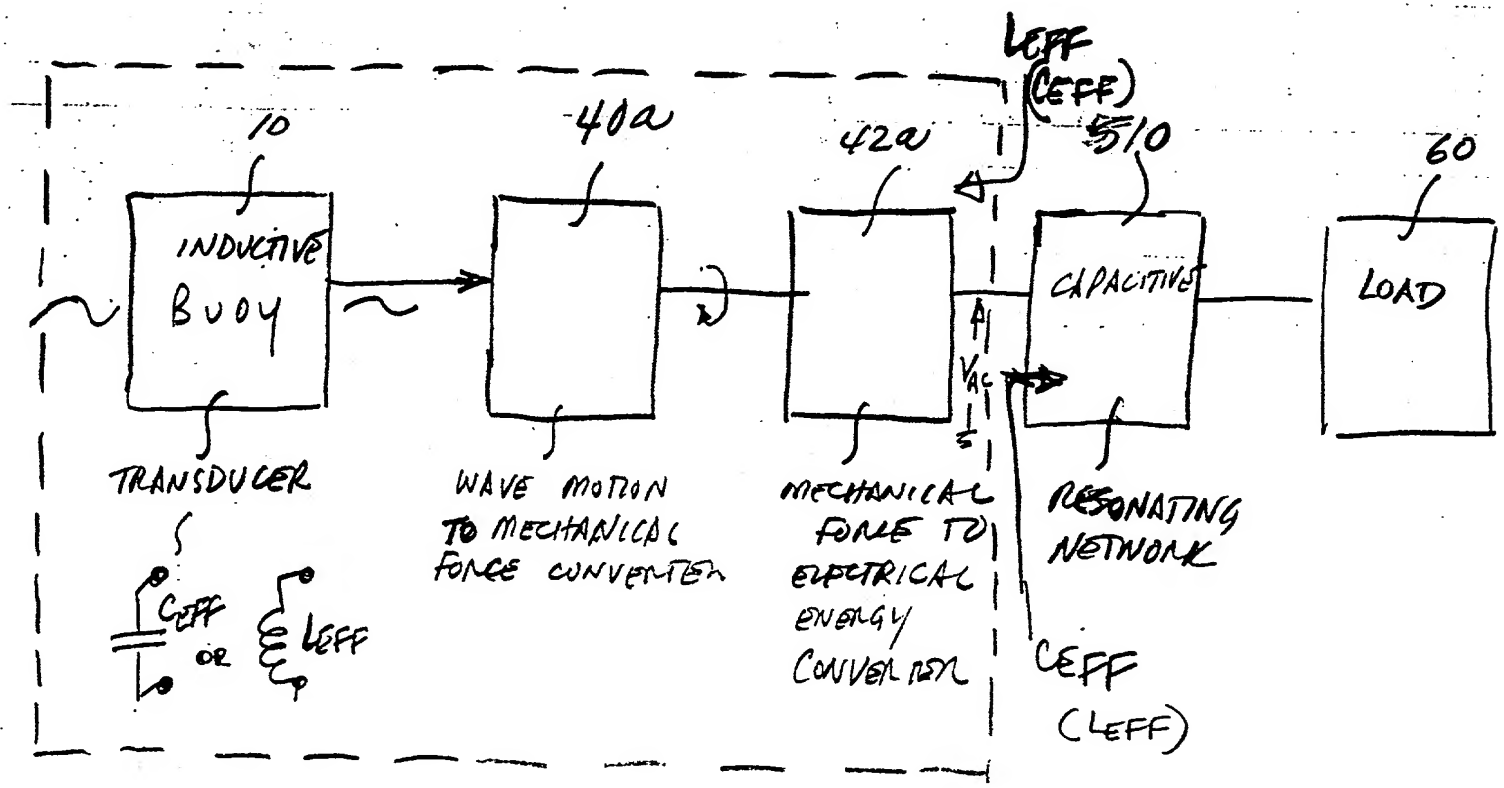
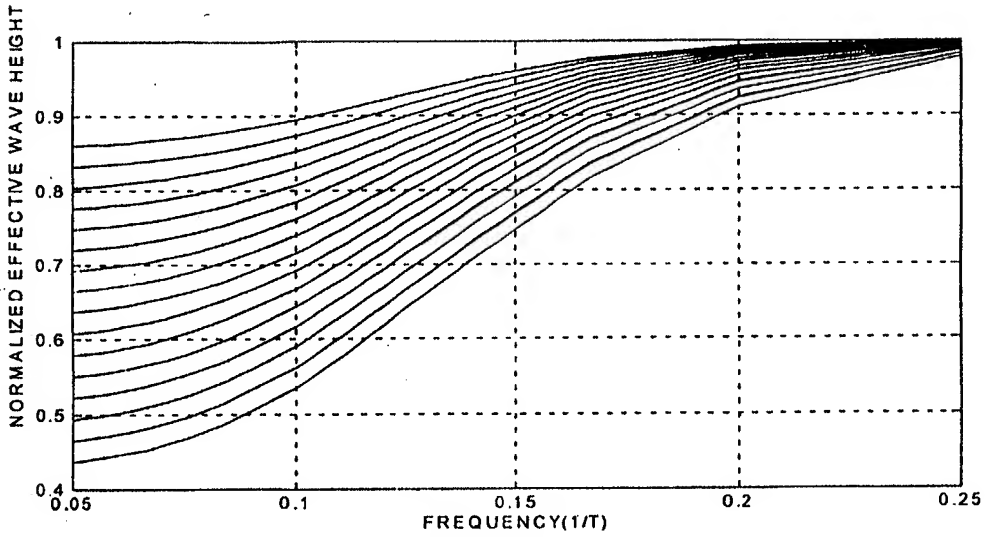


FIG 10



Effective Wave Height vs. Frequency (Period)

FIG 11

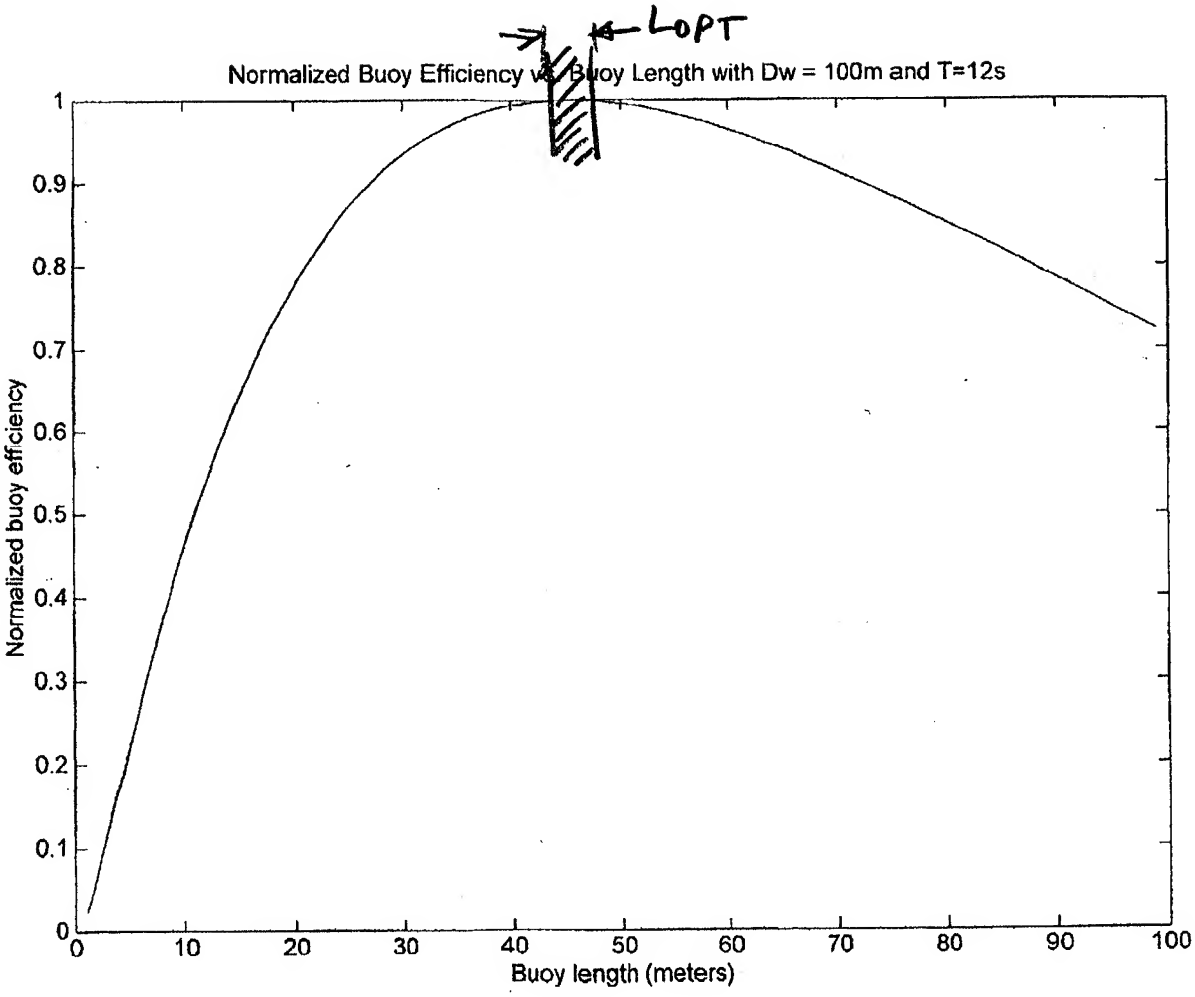

LOPT
Normalized Buoy Efficiency vs Buoy Length with Dw = 100m and T=12s
Normalized buoy efficiency
Buoy length (meters)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
0
10
20
30
40
50
60
70
80
90
100

FIG 12

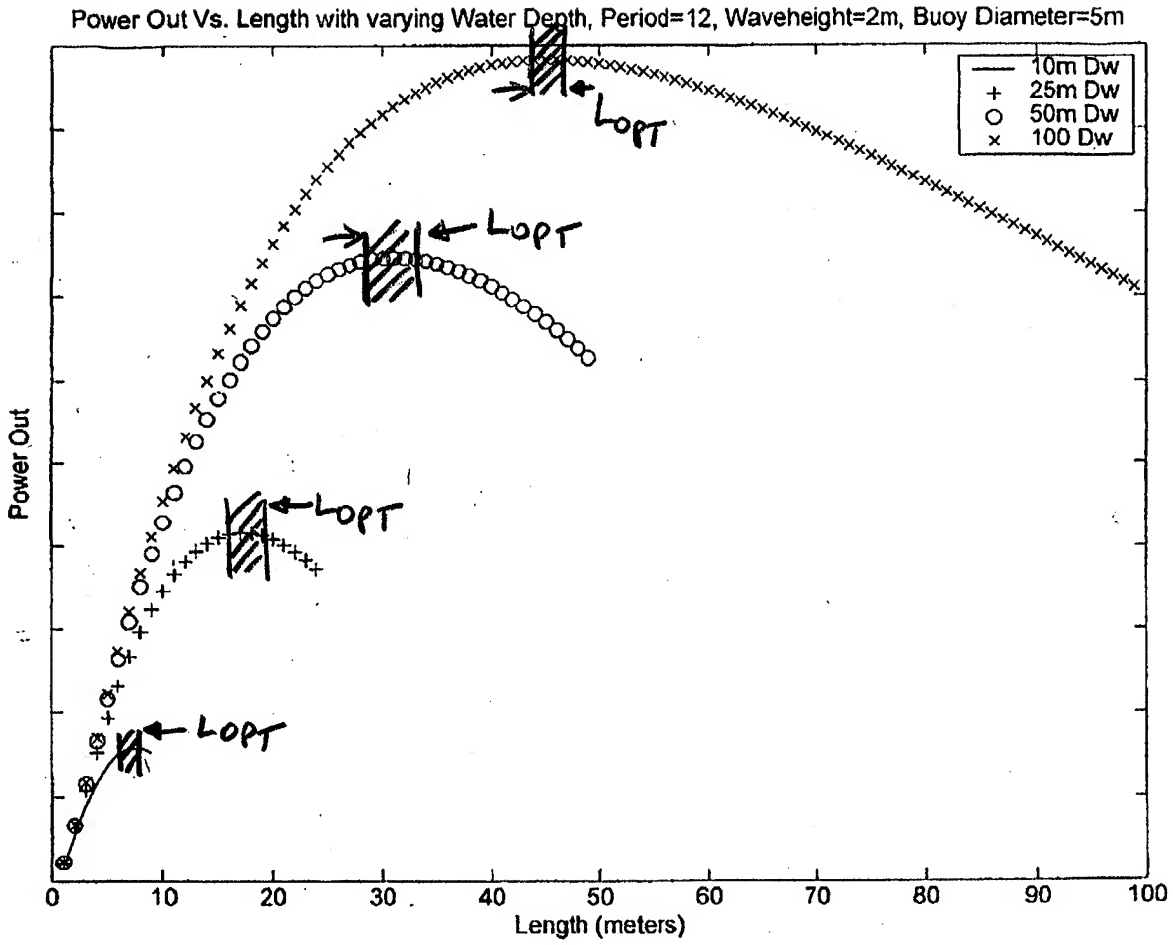

Power Out Vs. Length with varying Water Depth, Period=12, Waveheight=2m, Buoy Diameter=5m
10m Dw
25m Dw
50m Dw
100 Dw
LOPT
LOPT
LOPT
LOPT
Power Out
0
10
20
30
40
50
60
70
80
90
100
Length (meters)

FIG. 13

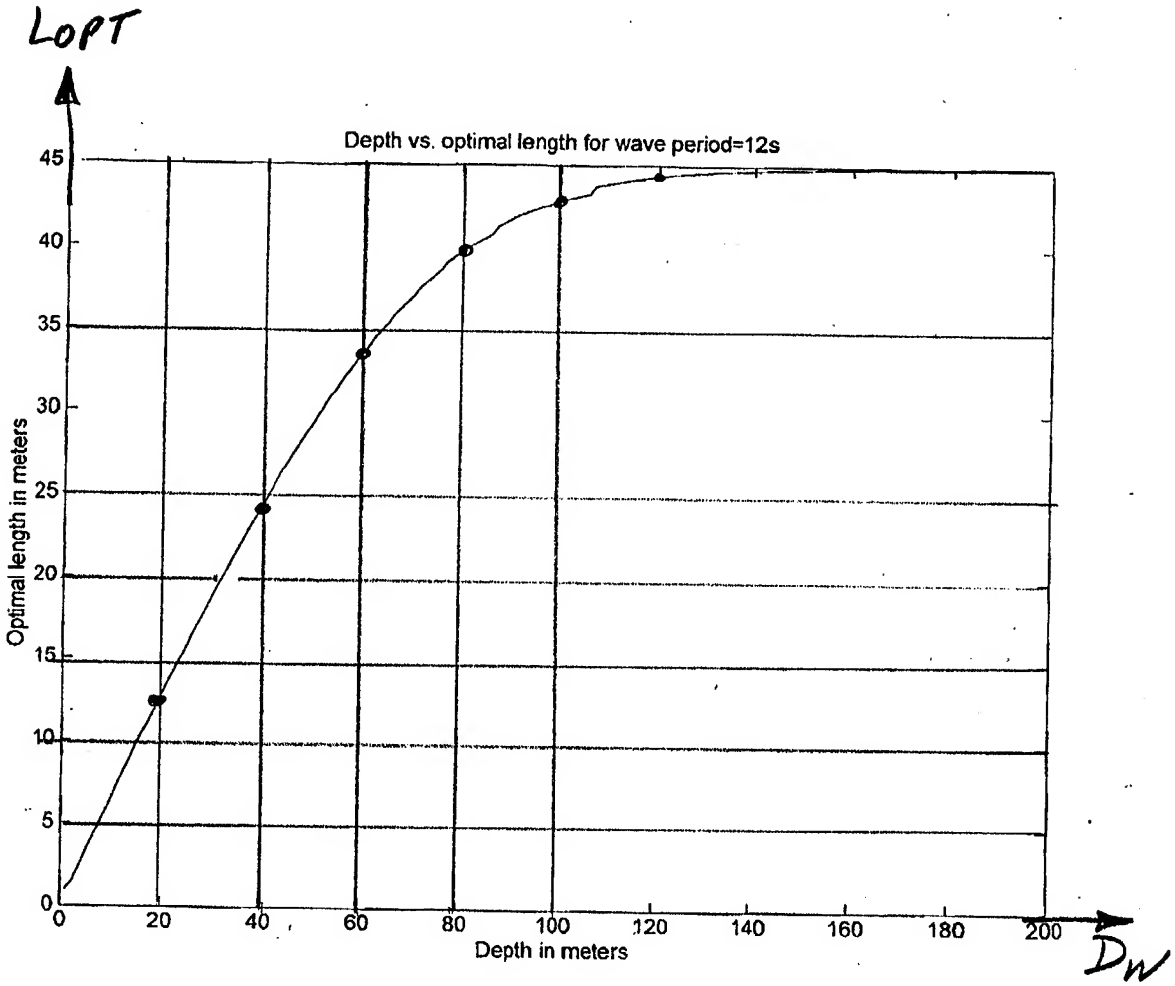

LOPT
Depth vs. optimal length for wave period=12s
Optimal length in meters
0
5
10
15
20
25
30
35
40
45
0
20
40
60
80
100
120
140
160
180
200
Depth in meters
DW

FIG 14

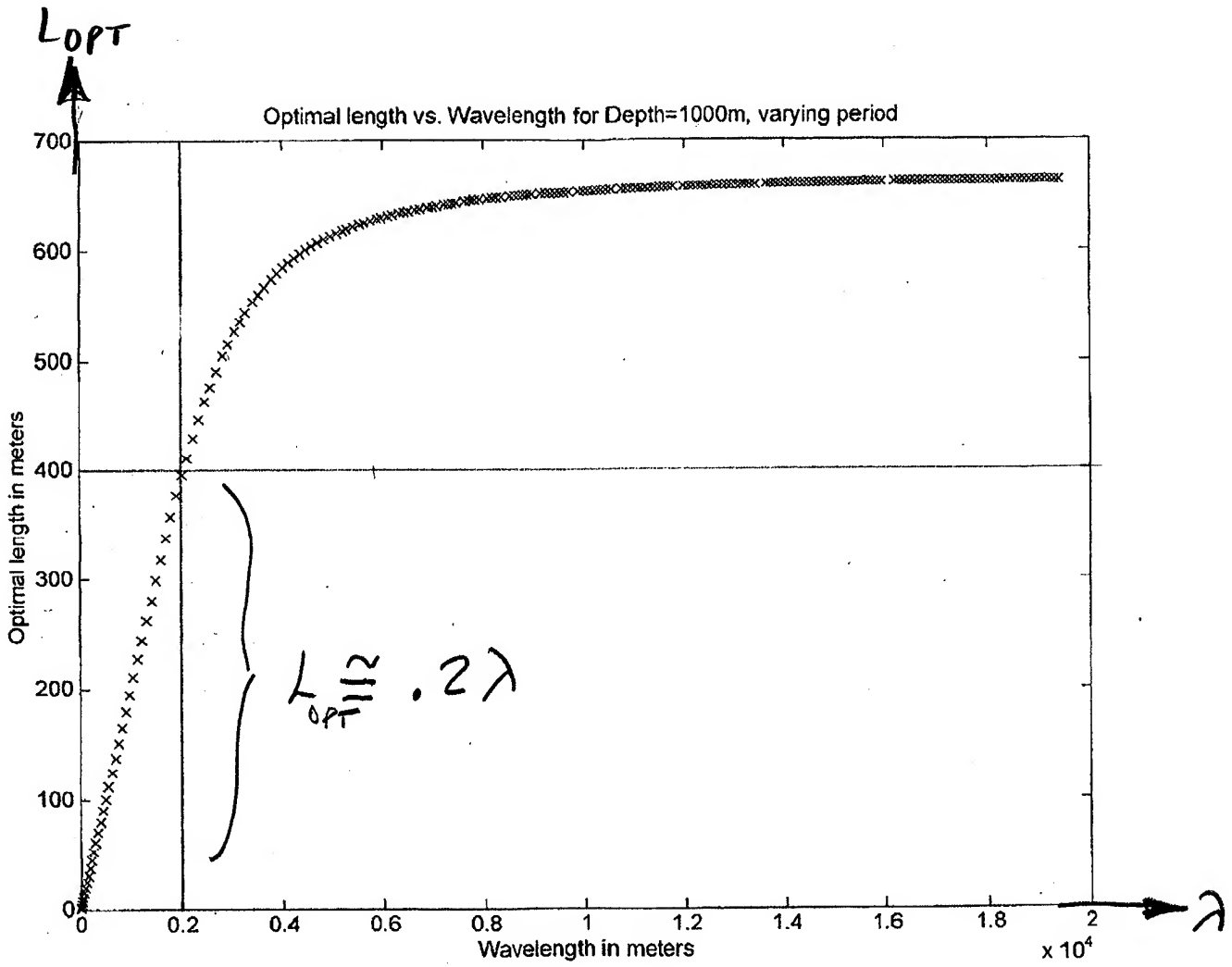

L_{OPT}
Optimal length vs. Wavelength for Depth=1000m, varying period
Optimal length in meters
Wavelength in meters
x 10^4
λ
$L_{OPT} \cong .2\lambda$

FIG 15